



Amendments to the Claims:

The following listing of claims will replace all prior versions, and listings, of claims in the application:

1.-9. (Canceled)

10. (Currently Amended) A method of producing a P(phosphorus)-doped silicon single crystal by Czochralski method, wherein, at least, a growth of the single crystal is performed so that an Al (aluminum) concentration is 2×10^{12} atoms/cc or more, and wherein the crystal growth is performed in the range of N region and I region.

11. (Previously Presented) The method of producing a P-doped silicon single crystal according to Claim 10, wherein the growth of the single crystal is performed so that a P concentration is 1×10^{14} atoms/cc or more in the silicon single crystal.

12. (Previously Presented) The method of producing a P-doped silicon single crystal according to Claim 10, wherein in the growth of the single crystal, it is pulled so that a value of F/G ($\text{mm}^2/\text{°C} \cdot \text{min}$) is a value of 0.2 or less, where F (mm/min) is the pulling rate and G (°C/mm) is an average value of a temperature gradient in the crystal along a pulling axis from the melting point of silicon to 1400°C .

13. (Previously Presented) The method of producing a P-doped silicon single crystal according to Claim 11, wherein in the growth of the single crystal, it is pulled so that a value of F/G ($\text{mm}^2/\text{°C} \cdot \text{min}$) is a value of 0.2 or less, where F (mm/min) is the pulling rate

and G ($^{\circ}\text{C}/\text{mm}$) is an average value of a temperature gradient in the crystal along a pulling axis from the melting point of silicon to 1400°C .

14.-17. (Canceled)

18. (Previously Presented) A P-doped silicon single crystal produced by the method according to Claim 10.

19. (Previously Presented) A P-doped silicon single crystal produced by the method according to Claim 11.

20. (Previously Presented) A P-doped silicon single crystal produced by the method according to Claim 12.

21. (Previously Presented) A P-doped silicon single crystal produced by the method according to Claim 13.

22.-25. (Canceled)

26. (Previously Presented) A silicon wafer which is sliced from the P-doped silicon single crystal according to Claim 18.

27. (Previously Presented) A silicon wafer which is sliced from the P-doped silicon single crystal according to Claim 19.

28. (Previously Presented) A silicon wafer which is sliced from the P-doped silicon single crystal according to Claim 20.

29. (Previously Presented) A silicon wafer which is sliced from the P-doped silicon single crystal according to Claim 21.

30.-33. (Canceled)

34. (Currently Amended) A P(phosphorus)-doped N-type silicon single crystal wafer wherein at least an Al (aluminum) concentration is 2×10^{12} atoms/cc or more, and wherein the whole plane of the wafer is N region and/or I region.

35. (Previously Presented) The P-doped N-type silicon single crystal wafer according to Claim 34 wherein a P concentration in the wafer is 1×10^{14} atoms/cc or more.

36.-37. (Canceled)